

MI-01 : DIELECTRIC TESTS ON SE-105, SE-125, SE-325 AND SE-701

The following describes the dielectric tests used for our industrial control equipment with SE-105, SE-125, and SE-325 units installed. During the dielectric tests remove any external wires from the ground-check ("GC") or the resistor fault ("R") terminals. These terminals can not be dielectric tested due to internal components. The CT input terminals can normally be dielectric tested at 2200-Vac to ground for one minute after removing any grounds on the CT wiring external to the unit. The power supply and contact output terminals all can normally be dielectric tested at 1250-Vac to ground for one minute after removing any grounds on the external wiring connected to these terminals.

The SE-701 will have to have all the input wires which are to be subjected to the dielectric test voltage disconnected and just the external wiring tested due to the MOV protection to ground provided internally to meet ANSI/IEEE C37.90 surge-withstand capability (SWC) tests. The other possible alternative is to remove the ground wire to the SE 701; since the SE 701 is in a plastic case and as long as the clearance of the terminals from ground for the installation is adequate, the electrical portion of the entire unit can be allowed to "float" to the dielectric test voltage. This alternative is riskier as all possible external "wired-in" grounds must be removed to ensure no possible path which could exist (even on the < 30-V circuits) and cause internal damage to the SE-701. Therefore, we recommend the initial method of testing external wiring only as it provides the surest method of not damaging the SE-701 and its MOV protection.

The following lists the procedures used to bench test individual units not included in other equipment.

Model No: SE-105 **Description:** Littelfuse Startco Ground-Fault Ground-Check Monitor

Connect terminals CT1, CT2, A, B, L1 and L2 together and to the hipot H.V. lead. Connect terminals SW, GI, +, CI, C, G and \downarrow together and to the hipot ground lead.

Adjust the voltage to twice rated + 1000 Vac \approx 1500 Vac for \geq 1 minute.

Disconnect hipot and remove test connections on SE-105.

Model No: SE-125 **Description:** Littelfuse Startco Ground-Fault Ground-Check Monitor

Connect terminals 1 through 18 together and to the hipot H.V. lead. Connect terminal 19, 20, 21 together and to the hipot ground lead.

Adjust the voltage to twice rated + 1000 Vac \approx 1500 Vac for \geq 1 minute.

Disconnect hipot, and remove test connections on SE-125.

Model No: SE-325 **Description:** Littelfuse Startco Neutral-Grounding-Resistor Monitor

Connect terminals CT1, CT2, A, B, L1, and L2 together and to the hipot H.V. lead.

Connect terminals SW, G1, +, RI, R, G, and \downarrow together and to the hipot ground lead.

Adjust the voltage to twice rated + 1000 Vac \approx 1500 Vac for \geq 1 minute

Disconnect hipot, and remove test connections on SE-325.